

REGIONAL PRIORITY GOAL III

Reducing respiratory disease and asthma by improving indoor and outdoor air quality.



Top: Hainaut Sanitary Vigilance

Middle: Italian Society of Doctors for the Environment (ISDE) and the municipality of Cremona

Bottom: Paediatric Environmental Health Specialty Unit

INDOOR ENVIRONMENT QUALITY IN NURSERY CENTRES

Etienne Noel from the Hainaut Sanitary Vigilance (Belgium) reports.

In the province of Hainaut most of the nurseries were investigated. In many cases problems could be identified and easy solutions were developed and actions plans have been defined if not already implemented. Thus local authorities were enabled to avoid children's exposure to hazardous substances from the indoor environment.

Our project builds on several years experience of "Green ambulances". These visit indoor environments (schools, private houses, nurseries, etc....) on request of a Doctor (GP or Specialist) when a pathology is suspected to have environmental causes, and particularly to be linked to the indoor environment.

Goals

- Assess the quality of the indoor environment in participating nurseries in the Province
- Provide recommendations of good practices in order to improve indoor environment in nurseries
- Develop specifications for the future
- Establish a relationship between the health of children living whole day in nurseries and their indoor environments

Activities

46 out of the 50 nurseries from the Province of Hainaut accepted to take part in our study.

We measured ambient parameters (temperature, relative humidity, CO, formaldehyde) and took air samples in order to analyse volatile organic compounds (VOCs). We systematically looked for moulds, dust mites and dampness.

We also investigated tap water to check for the presence of lead and Legionella.

In parallel a medical questionnaire has been distributed among the parents. It included questions related to children's pathologies and medication.

Results

Briefly the following results were obtained:

Moulds and dust-mites were found in 30% of the nurseries.

Legionella and lead were identified in 40% of the centres.

In most cases, we found volatile organic compounds in the indoor air and sometimes at levels above those recommended by WHO (specially for the BTEX)

Even radon was found (in an area where radon shouldn't be expected) in one place and the level registered was particularly high.

As a conclusion of the study, in most day-care centres, indoor pollutants were identified. Children in nurseries are exposed to a mixture of compounds, which could be hazardous.

Unexpected results such as Legionella in tap water should invite us to seriously consider the fact that Legionella could be a risk factor of atypical pulmonary pathology in children. Therefore it is key that the medical sector be aware of these risks. Awareness raising among professionals and the general public on these and a multitude of other hazards indoors is necessary.

A systematic monitoring of day-care centres is highly recommended at a wider scale so that children's exposure in the future is better controlled, managed and finally also reduced. ♦

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I WALK LIKE A GROWN-UP

Federico Balestreri from the Italian Society of Doctors for the Environment (ISDE) and the municipality of Cremona reports.

Children were encouraged to embark on physically active mobility patterns and to take an active part in planning processes around their schools. Ultimately also teachers and parents were convinced to follow the good example of the children.

The North Italian air is burdened with levels of suspended fine particles (PM10) that for the most part of the year out-match the regulatory limit of $50\mu\text{g}/\text{m}^3$. Cremona is a quiet city of medium dimensions. Nevertheless in recent times and increasingly in the last decade even short distance trips like the way to school are less and less travelled on foot. For several reasons parents tend to bring their kids to the school in their own cars. Fear from accidents on the streets when children go to school alone turned out to be a main motive especially with very young children. This tendency to even more intensive car use was reflected by the fact that particulate air pollution around schools in spite of technical measures remained high. Hence this project was born.

Goals

To reduce atmospheric pollution near schools and to promote the independent mobility of children.

Activities

A "Walking Bus" was initiated to get children to school on foot in groups that are safely protected and lead by an adult.

Parents and teachers were encouraged to use car sharing and more environmentally friendly modes of transport.

Children, parents and teachers were informed in public meetings and through leaflets and other educational material. They also were invited to actively take part in planning processes.

Results

Children gained a more independent way of mobility and acquired a better insight into their city's lay-out.

Air quality around schools improved while car density and dangerous situations were reduced. ♦

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SCHOOL-BASED TOBACCO PREVENTION PROGRAM

Juan Antonio Ortega García on the project of the Paediatric Environmental Health Specialty Unit (PEHSU) in Murcia illustrates the project.

School children were selected to act as advocates for a smoke free environment. Also parents and teachers were invited to take part in the project. By these means awareness on the problems of smoking could be raised and the smoking frequency among kids was reduced.

Spain is among the European countries with the highest tobacco prevalence. About 48% of adults between the ages of 20-44 years are smokers.

In Murcia about 37,5% of the adolescents (14-18 y) affirm to have consumed tobacco during the last month. With such high levels of smoking in the adult population, active prevention of smoking initiation and raising awareness of the harmful effects among school children are key to the prevention of adult smoking.

Specific action: Educate caregivers, health providers and school personnel on ways to prevent or reduce children's exposure to indoor air pollution (IAP)

Number of target population reached: 2,200 parents and 12,000 children/adults (Valencia and Murcia Communities).

Goals

- Raise awareness on harmful effects of smoking
- Provide students with tools and resources to resist social pressure of smoking initiation

- Identify students who could work as advocates and school leaders to promote tobacco free environments.

Activities

This initiative sought to prevent smoking initiation among school children by means of a school-based educational program that raised awareness of the harmful effects of smoking, encouraged cessation (among parents, teachers and other adult school personnel) and prevention of smoking initiation – messages also intended to be brought home to the parents through questionnaires and involving a few parents each year in the class activities. The initiative involved the community early on and introduced tobacco lessons into the school curricula. Additionally, a set of information and audiovisual materials on the tobacco epidemic and information on smoking cessation were also provided.

Results

- Reduction and/or elimination of exposure to environmental tobacco smoke
- Reduction / elimination of smoking initiation.

A powerful alliance against smoking has been developed within the school community bringing together health care providers, teachers, parents and students. In the first year the number of smokers was reduced by 18%.◆

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